



King County

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CLERK
KING COUNTY COUNCIL

January 13, 2012

The Honorable Larry Gossett
Chair, King County Council
Room 1200
C O U R T H O U S E

Dear Councilmember Gossett:

This letter transmits the report requested in Motion 13566 outlining options for King County to participate in community solar projects to support sustainability and economic development in our region.

The Washington State Legislature enacted the renewable energy system cost recovery program to provide financial incentives for solar energy projects in Washington State, including manufacturing of solar components.

Given the important opportunities to promote sustainability and economic development, I asked the County's interdepartmental energy task force to identify ways in which the County could participate in the renewable energy system program for the benefit of our residents and the quality of life in our region. The King County Council also demonstrated leadership on this issue by requesting a report on our findings, and I am pleased to provide our initial results in the attached report.

As the report indicates, one of the best ways that the County can facilitate local solar projects is by making County property available for these projects. Time is of the essence given that the State's community solar incentives sunset in 2020. Our energy task force is currently screening County facilities and properties as potential host sites for solar installations, giving consideration to solar orientation, current power usage, security, and compatibility with operations. The energy task force is also working with the Prosecuting Attorney, Risk Management, Purchasing, and Real Property to identify and resolve implementation issues up front so that these types of projects can be carried out as efficiently as possible. I have directed the task force to complete their initial program development work and actively conduct outreach to potential project partners by February of 2012. The Department of Natural Resources and Parks, informed by this work, is discussing a potential pilot project on Vashon Island.

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The County's work to facilitate solar projects supports the sustainability goals of the County Strategic Plan, and I look forward to continuing to work collaboratively with the Council on this issue.

It is estimated that this report required 20 staff hours to produce, costing \$1,500.

If you would like more information about this report, please contact Bob Burns, Deputy Director of the Department of Natural Resources and Parks, at 206-263-6296.

Sincerely,



Dow Constantine
King County Executive

Enclosure

cc: King County Councilmembers

ATTN: Cindy Domingo, Acting Chief of Staff

Mark Melroy, Senior Principal Legislative Analyst, BFM Committee

Anne Noris, Clerk of the Council

Carrie Cihak, Chief Advisor, Policy and Strategic Initiatives, King County
Executive Office

Dwight Dively, Director, Office of Performance, Strategy and Budget

Christie True, Director, Department of Natural Resources and Parks (DNRP)

Bob Burns, Deputy Director, DNRP

Caroline Whalen, County Administrative Officer, Department of Executive
Services (DES)

Kathy Brown, Director, Facilities Management Division, DES

Jennifer Hills, Director, Office of Risk Management

Andrew Marcuse, Senior Deputy Prosecuting Attorney

REPORT ON OPPORTUNITIES UNDER THE WASHINGTON STATE COMMUNITY SOLAR PROGRAM

EXECUTIVE SUMMARY

Motion 13566, relating to solar energy, requested that the Executive review the renewable energy system cost recovery program and provide a report to the Council by January 15, 2012 on options for the County to participate in community solar projects as part of the renewable energy system cost recovery program under RCW 82.16.110, 82.16.120, 82.16.130 and 82.16.140. The Washington State Legislature enacted the renewable energy system cost recovery program to provide financial incentives for solar energy projects in Washington State, including manufacturing of solar components. The program provides one of the most generous production incentives in the world if made-in-Washington panels and equipment are utilized.

The Community Solar Program, a part of the Washington State renewable energy system cost recovery program, WAC 458-20-273, provides a framework for citizen groups formed to install solar energy projects on public property owned by local governments. The program provides an important opportunity for the County to promote sustainability and economic development in our region. State law currently authorizes the program until 2020.

Under the Community Solar Group concept, individuals who may not have sufficient property, solar access, or capital to invest in their own private solar project, can invest in a share of a solar project located on the property of a cooperating local government. The individual receives incentive payments from the project while supporting a renewable energy project.

The local government host, such as the County, benefits from a reduction in utility bills due to the solar power generated on site and from actively enabling the development of renewable resource investments within the region, which will help lead to an even cleaner regional energy portfolio and reductions in greenhouse gas emissions. Supporting community solar projects is consistent with the Environmental Sustainability Goal of the 2010 King County Strategic Plan, and implements renewable energy and green technology strategies in the 2010 King County Energy Plan.

The County is well-positioned to lease property for these solar projects. Site selection and vetting processes have already begun at the department level, and the County is exploring the possibility of a pilot project with a community group for a project at the Vashon Transfer Station.

Consistent with the state program, King County can facilitate community solar projects by identifying suitable County locations, publicizing the program, identifying potential project sponsors through procurement and/or other processes, and developing model agreements informed by successful implementation in other jurisdictions.

Key implementation issues relate to compliance with existing County code requirements regarding fair market rental value, insurance and risk allocation, and disposition of solar equipment at the end of the lease term. Staff from the Office of the Prosecuting Attorney, Department of Natural Resources and Parks (DNRP), Facilities Management Division, Office of Risk Management, and the Executive Office are developing a conceptual template for County implementation of the program that is intended to address these and other issues. Staff anticipate concluding this work in the first two months of 2012.

BACKGROUND

The State of Washington has established the Renewable Energy System Cost Recovery incentive program, through which incentives are available to offset the costs associated with the purchase and use of renewable energy systems located in Washington State, including solar energy systems.

State law provides for electric utilities to pay incentives to the renewable power producers and in return earn an equivalent tax credit from the state. The available pool of incentives is limited in each participating electric utility's service area to 0.5 percent of the utility's taxable power sales. Utilities are allowed to use 25 percent of these funds to operate solar programs directly; private companies are entitled to 5 percent of the funding; and 70 percent is set aside for the participation of individuals and community groups. The program is in place until 2020.

The legislation includes a residential program that allows individuals to install solar projects on their own property. It also allows individuals to form a Community Solar Group. Group participants may own a share of a solar project, installed on public property, and receive production incentives from the state. This Community Solar Program enables local governments like the County to support the development of renewable energy within the region while simultaneously allowing citizens who may not have adequate property, capital, or solar access for an independent installation, to develop, support, and benefit from solar power.

The state program defines a Community Solar Project as a solar energy system, capable of producing no more than 75 kilowatts of electricity, that is owned by a community group and placed on property owned by a cooperating local government. These groups are defined as "local individuals, households, nonprofit organizations or nonutility businesses." Currently, the state program offers little guidance as to how these groups organize to commit resources and share benefits under the community solar program. However, the state Department of Revenue can and will certify a group as eligible for the state incentive, via a "binding letter" of written approval from the department.

By setting solar production incentives for community solar projects at twice those of comparable residential solar projects, the state is encouraging the cooperation of local

groups and governments and recognizes the additional complexities of such arrangements.

If utilizing made-in-Washington panels and equipment, a community solar project can be eligible for \$1.08 per kilowatt-hour of electricity produced, roughly twelve times the utility residential retail rate to purchase power, and among the most generous production incentives in the world.

As shown in Figure 1, below, representing a schematic of a typical community solar installation, the basic components for a community solar installation are as follows:

- Eligible site (existing utility meter and service, good solar access, site relatively secure from the threat of theft or vandalism).
- Photovoltaic Module – commonly known as a “solar panel”, the semi-conductor device which collects solar energy from the sun and converts it to electric power.
- Support Structure – some means of mounting the modules so they receive ample exposure to the sun. This could be a ground-mounted frame or incorporated onto the building roof, etc.
- Inverter – necessary electronics for connecting the solar array to the utility grid.
- Production Meter – installed by the sponsoring utility; this meter measures the power produced by the solar installation and will determine the annual incentive payments to the project.

Once solar power passes through the production meter, the power is fed directly to the host site. Each unit of power generated on-site will eliminate the site's purchase of an equal unit of power through the main utility meter. This arrangement is known as “net metering”. Thus, net metering can save the County money by reducing its utility bill at each facility where a community solar project is installed.

In addition, for each 1,000 kWh of renewable electricity generated by a solar array, the project is eligible for one Renewable Energy Certificate (REC). A REC represents the property rights to the non-power, environmental benefits of renewable energy generation. RECs can be sold separately from the power produced and thus can be sold or traded to other facilities if desired. In theory, sale and purchase of RECs is one way that utilities can “add” green energy to their portfolios. Currently, the REC market is not mature (particularly for small producers), and it is unclear whether community groups can presently derive much benefit from the RECs generated by installations on County property. For more information on RECs, see EPA's publication titled “Renewable Energy Certificates (July 2008).¹

¹ Available online at http://www.epa.gov/greenpower/documents/gpp_basics-recs.pdf (visited January 10, 2012).

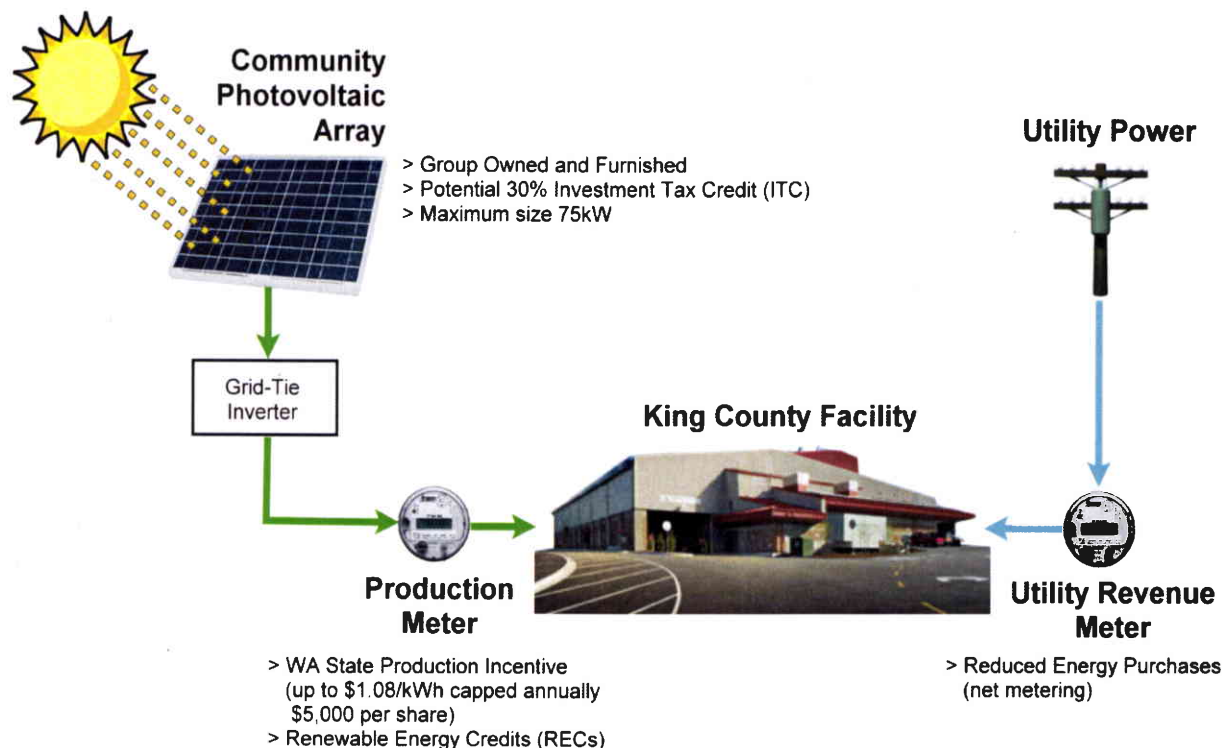


Fig. 1, Community Solar System

DISCUSSION

Upon review and analysis of the community solar program, staff have developed the following recommendations and considerations with respect to community solar projects.

Program Timeline

Considerations:

- The program will expire in 2020, and seven to eight years of revenue is necessary to ensure the economic viability of most installations unless provisions are made for the investors to sell the equipment at the end of the program. The short life of the state incentive program presents very a limited "window" of opportunity to engage with community groups to develop and implement solar projects on County property.

Recommendations:

- The county should identify sites with the greatest potential for rapid development in terms of solar orientation, security, access, maintenance, etc. Given the limited

window of opportunity to take advantage of the state incentive program, the County should approach with caution any complex or unusual arrangements (e.g., integrated, dual-use, pea-patch/solar projects, or roof-mount installations).

- A staff team is presently identifying potential sites and it is anticipated that this work will be completed in the first two months of 2012.

Group and Project Eligibility

Considerations:

- Interested groups must submit a request to the State Department of Revenue (DOR) to certify the group as eligible for the state incentive and receive a "binding letter" of written approval from DOR.
- Participants need to reside within the same utility boundaries that will serve the community solar project.
- While "the cooperating local government entity that owns the property on which the solar energy system is located may also be a member of the company," the task group has concluded that for practical reasons the County can best support community solar projects by participating as a property lessor.
- Maximum project size is 75 kilowatts per group.

Recommendations:

- The County should require interested groups provide a copy of their DOR "binding letter" as part of the criteria that must be met to participate in any selection process the County may use
- The County should participate in community solar projects as a lessor or landlord. The County should not actively participate role the formation, management, or implementation of community solar groups .

Site Selection

Considerations:

- Eligible sites must be served by an existing utility meter of the same servicing utility as the group participants.
- Multiple projects may be collocated at a site, subject to the state utility net metering limitation of 100 kilowatts per site.
- Space requirements for the solar panel array are roughly 100 sq ft for every kilowatt of installed capacity. The largest array allowed under the program would cover roughly 7,500 sq ft.
- Departments are currently evaluating an initial list of suitable properties for community solar installations. These sites could be made available to community groups on ad hoc basis as such groups approach the County, through a

procurement process, or both. In either case the starting point for negotiation of rent will be the fair market rental value of the site as presently required by K.C.C. 4.56.160.A.

Recommendations:

- Eligible sites are those that have existing electrical service, meaningful annual electrical demand, good solar access, sufficient physical space for reasonably simple installation of solar arrays and related equipment, and are relatively secure from the threat of theft or vandalism.
- Potential sites for roof-mounted installations should be carefully evaluated because they are likely to be expensive and complicated to engineer and install, and because they are likely to result in additional expense and liability issues over time due to the challenges of integrating such systems into complex roofing systems.

Participant Benefits & Responsibilities

Considerations:

- The community group is responsible for all interactions with the DOR concerning application and disbursement of solar production incentives.
- The community group is responsible to compensate the County for use of the County's property consistent with King County code.
- Investors in a community group receive their share of the annual production incentive payments from DOR not to exceed \$5,000. DOR does not consider the incentive payment an applicant receives to be taxable income.
- If the community group is a corporation, it may currently apply for a 30 percent federal investment tax credit.
- Basic ground-mounted installations utilizing made-in-Washington components can be acquired for about \$7.50 per installed watt. Under this scenario, the maximum system allowed under the program could cost in excess of \$550,000.
- The largest system allowed under the program would generate approximately 75,000 kWh in an average year. If the modules and inverter are made-in-Washington, this would yield roughly \$81,000 in production incentives for the project, requiring a group size of at least 17 to maximize individual return and avoid "capping" individual incentive eligible.
- Under WAC 458-20-273, participants in the community group retain the rights to their share of the RECs generated by the project.

Recommendations:

- The community group should be responsible for maintenance, repair, and replacement of all solar equipment during the term of the lease.

- The County may want to evaluate whether to accept RECs from the community group as partial compensation for hosting the project at the site. In other public-private partnerships to generate renewable energy, such as the gas capture project at Cedar Hills Regional Landfill, King County has retained the RECs. To do, so the County will need to value the RECs it will receive.

Host Benefits & Responsibilities

Considerations:

- WAC 458-20-273 allows for the leasing of land for the development of community solar projects.
- Each unit of electricity generated from a solar project will eliminate an equal amount that the County would otherwise purchase from the utility serving the site (net metering). This benefit is estimated at \$70 for every kilowatt of installed capacity. The largest array allowed under the program would offset roughly \$5,250 of electricity purchases per year.
- WAC 458-20-273 allows for the leasing of land for the development of community solar projects.

Recommendations:

- From a policy perspective, community solar projects could help King County to meet the 2010 Energy Plan Goal for County use and production of renewable energy, and reduce the County's greenhouse gas emissions.
- From a financial perspective, net metering benefits (quantifiable reductions in electrical utility costs), and, potentially, the value of RECs transferred to the County, should offset equivalent amount of rent otherwise payable to the County for lease of its property.
- After establishing an initial pool of candidate host sites, Real Estate Services will preliminarily assess the fair market rental value of each site, and the appropriate energy manager will calculate the anticipated reduction in utility costs available through net metering. More work needs to be done before the County can accept and value RECs as a potential "offset" of rent.
- As part of the process to select an initial pool of candidate sites, the County will evaluate cost and risk considerations to help focus on potential sites where costs are likely to be low and risk issues may be more easily addressed.

Disposition of Solar Equipment

Considerations:

- The useful life of solar modules and inverters is expected to greatly exceed the 8-year life of the present state incentive program. If allowed to remain in

production, County host sites could potentially receive from another 12-22 years of net metering, which would further reduce the County's electrical utility bills over time. As a result, the County should allow for the possibility of acquiring solar equipment at the end of a lease term, where the net metering benefits are expected to equal or exceed the residual value of the solar equipment.

- Potentially, future state legislation (e.g. I-937) could require utilities to invest in renewable energies and may provide incentives for the County to host community solar projects beyond 2020, including further net metering benefits, and production of RECs that could be sold to the utilities or otherwise incentivized.

Recommendations:

- The County's framework for hosting community solar projects should include a process to evaluate the costs, risks, and benefits of acquiring solar power equipment on a site by site, case by case basis at the end of a lease term.
- The County's framework for hosting community solar projects should also provide for alternatives to County acquisition of solar equipment, such as renewal or extension of lease terms, sale of the equipment to a utility or other entity, removal and relocation of the equipment to another site or facility, etc.
- The County and its local utility providers should discuss the possibility of entering into a power purchase agreement at the conclusion of the state's community solar incentive program to allow for the continued renewable power production.

NEXT STEPS

Work is underway on the following program development steps:

1. Complete due diligence review of potential sites for community solar projects including risk review of program elements.
2. Conduct preliminary assessment of rent for candidate sites along with characterization (quantification, monetization) of offsetting benefits from net metering, RECs, etc..
3. Develop form of agreement for County-community group partnerships under the community solar program.
4. Develop program information, including a Request for Interests to publicize the Community Solar Program and the benefits of participation.
5. Continue discussions with Vashon Community Solar (VCS) regarding potential pilot project at the Vashon Transfer Station. The County task group assessing the site and keeping VCS apprised of program developments within the County.

The conceptual goal is to have a complete project proposal with VCS in the first quarter of 2012, and begin discussions with other groups early in 2012.

CONCLUSION

King County is well-positioned to promote renewable energy development in the region through the Community Solar Program.

Leasing King County property for community solar projects can promote clean solar power in the County, reduce greenhouse gas emissions in the region, and potentially stimulate the growth of the state's solar power industry.

Taking steps to encourage and support community solar projects is consistent with the Environmental Sustainability Goal of the 2010 King County Strategic Plan, and implements renewable energy and green technology strategies in the 2010 King County Energy Plan.

Community solar groups can access state financial incentives for Community Solar Power Projects, and the County will receive benefits through reliable on-site power, net-metering that can reduce electrical utility bills, and progress towards King County Energy Plan and Climate goals.

Together, we can work toward protecting the environment, raise public awareness of renewable energies and make significant strides towards a positive energy future.

Links to the legislation:

RCW 82.16.110, 82.16.120, 82.16.130
<http://apps.leg.wa.gov/rcw/default.aspx?cite=82.16>

WAC 458-20-273
<http://apps.leg.wa.gov/wac/default.aspx?cite=458-20-273>